

# *Bathing Beach Program*



Deep Spring Woods 1– Wonder Lake

2015 Beach Season

37 Public Beaches on  
12 Lakes

**MCDH**

# ***Program Objectives***

- **Prevention of accidents**
- **Prevention of illness**

# ***Illinois Swimming Facility Code***

- **Licensure**
- **Life Safety**
- **Sanitation**
- **Water Quality Standards**
- **MCDH agreement with IDPH for local oversight**



Shore Hills, Wonder Lake

# ***Characteristics of Surface Water Quality***

- **Multiple Influences**
  - **Weather (precipitation, wind, temp.)**
  - **Storm-water Run-off**
  - **Wild/Domestic Animals**
  - **Agricultural Run-off**
  - **Wastewater (illicit discharges)**
  - **Treatment (i.e. weed/algae control)**
  - **Bathers**
- **No Disinfection/No Filtration**
- **Variability of Conditions**

# **Potential Causes of Waterborne Illness**

- **Bacterial**

- E coli, Shigella

- **Viral**

- Norovirus

- **Parasitic**

- Schistosome Dermatitis  
(swimmer's itch)

- Cryptosporidium

- Giardia

- **Chemical**



# ***Potential Routes of Exposure***

- **Ingestion**

- **Gastrointestinal**

- **Dermal**

- **Swimmer's itch**

- **Ear infection**

## ***Rock Cut State Park Rockford***

- **1995**
- **12 confirmed cases**
- **E coli 0157:H7**
- **Basis for bacteriological quality indicator – E coli**
- **Most accurate/direct measure of fecal contamination available**



Rock Cut State Park

# ***Waterborne Outbreaks Associated with Untreated Recreational Waters 2009 – 2010***

- 24 Outbreaks
  - 19 Lake Reservoir*
  - 3 River/Stream*
  - 1 Ocean*
  - 1 Pond*
- 296 Cases of illness
- 13 Different states  
*(None in Illinois)*



# ***Sampling Protocol***

- Minimum every 2 weeks
- Sampling more frequently (holidays, heavy rain)
- 2 Samples per beach (1 shallow and 1 deep)
- Colilert Quantitray Method
  - Results in 18 - 24 hours
  - Most probable number of E coli cfu/100 ml



**MCHENRY COUNTY  
DEPARTMENT OF HEALTH  
WATER QUALITY ADVISORY**

ALL LAKE WATER CONTAINS POTENTIALLY  
HARMFUL MICRO ORGANISMS. SWIM AREA  
MONITORED FOR E. COLI BACTERIA. AN  
INDICATOR OF HUMAN HEALTH RISKS

- SWIM ADVISORY= ELEVATED HEALTH RISK
- BEACH CLOSED= NO SWIMMING
- SWIMMING WITHIN 24 HRS AFTER HEAVY RAINFALL NOT RECOMMENDED
- DO NOT INGEST LAKE WATER
- REPORT ILLNESS OR INJURY TO OPERATOR
- SWIM AT OWN RISK

INFORMATION AND SAMPLE RESULTS AT  
[WWW.MCDH.INFO](http://WWW.MCDH.INFO) OR CALL 815-334-4585

**CURRENT SAMPLING  
RESULTS SATISFACTORY**

**MCHENRY COUNTY  
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**WARNING  
SWIM ADVISORY**

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**BEACH CLOSED**

## ***Trend of Closures/Advisories***

YEAR	NO. CLOSURES	NO. ADVISORIES
2014	16	26
2013	22	14
2012	6	10
2011	33	37
2010	42	47

## ***Factors Affecting Recovery After Elevated E.coli levels***

- **Natural die-off**
- **Wind and wave action**
- **Ultraviolet light from the sun**
- **Precipitation/Water fowl**



Morrison Park Beach, Lily Lake



# *Predictive Modeling*

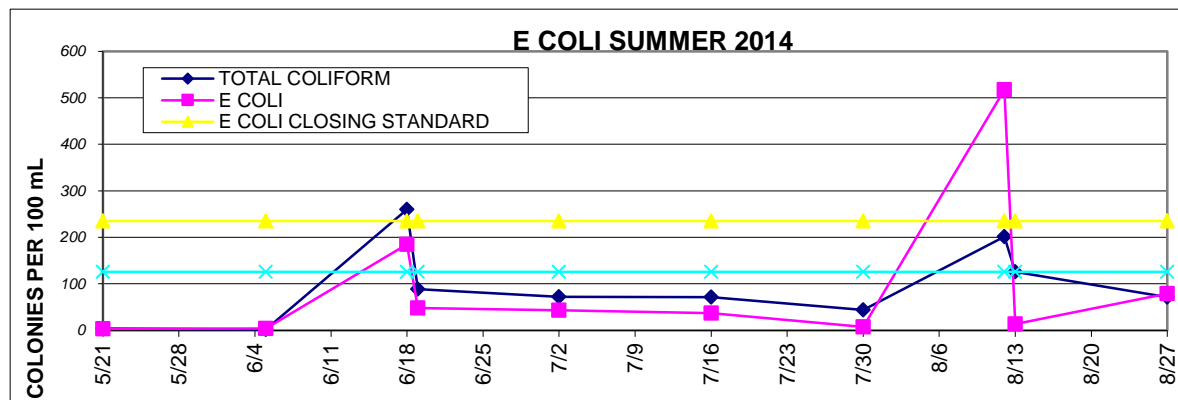
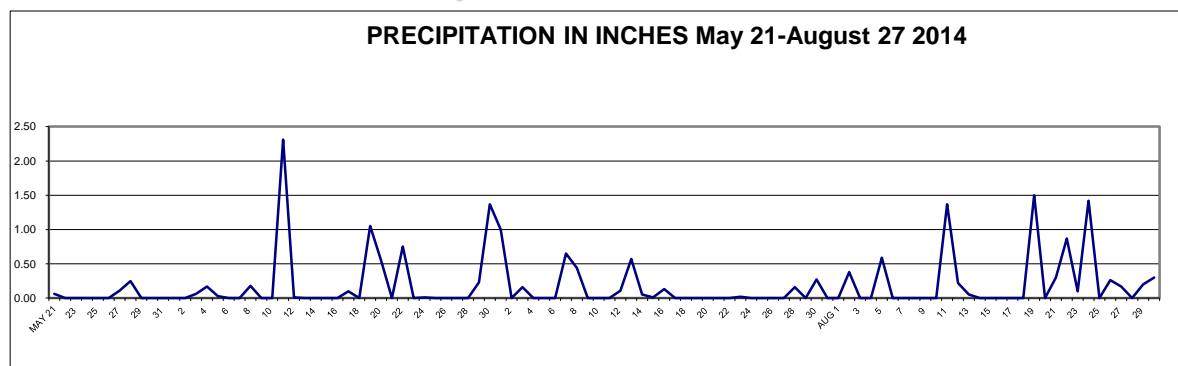
## Great Lakes Beaches

- Temperature
- Precipitation
- Wind
- Wave Action
- Riptides
- Known Discharge Points (storm sewer, sewer)



Lake Michigan

## Precipitation and Bacteria Levels at East Beach Park, McCullom Lake



# Sources of Fecal Contamination

## DNA Testing

- Lake County -2005- Waterfowl
- Crystal Lake Main Beach -2010- Seagulls

## Wonder Lake - Wonder Center Beach



There is no monitoring information for Wonder Center Beach this year.

[Beach Detail](#)
[Advisories](#)
[Results](#)
[Monitoring](#)
[Surveys](#)
[Photos](#)

Advisory Year	Start Date	Reopen Date	Days Closed	Type	Reason	Source
<b>2014</b>						
	7/18/2014	7/19/2014	1	Contamination Advisory	High bacteria levels	Unknown
	7/17/2014	7/18/2014	1	Closure	High bacteria levels	Unknown
	7/3/2014	7/10/2014	7	Contamination Advisory	High bacteria levels	Unknown
	6/21/2014	7/3/2014	12	Contamination Advisory	Other	Other reason
	6/20/2014	6/21/2014	1	Contamination Advisory	High bacteria levels	Unknown
	6/13/2014	6/20/2014	7	Contamination Advisory	Other	Unknown
<b>2013</b>						
	6/28/2013	7/2/2013	4	Closure	High bacteria levels	Unknown
<b>2011</b>						
	7/27/2011	8/2/2011	6	Contamination Advisory	High bacteria levels	Unknown
	7/1/2011	7/2/2011	1	Closure	High bacteria levels	Unknown
	6/30/2011	7/1/2011	1	Contamination Advisory	High bacteria levels	Unknown
<b>2010</b>						
	6/24/2010	6/29/2010	5	Closure	High bacteria levels	Unknown
	6/10/2010	6/11/2010	1	Contamination Advisory	High bacteria levels	Unknown